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## Memo

*DATE:* February 3, 2006

*TO:* RHIC E-Coolers

*FROM:* *Ady Herscovitch*

*SUBJECT:* **Minutes of the February 3, 2006 Meeting**

Present: Ilan Ben-Zvi, Rama Calaga, Xiangyun Chang, Alexei Fedotov, Wolfram Fischer, Harald Hahn, Ady Herscovitch, Dmitry Kayran, Jorg Kewisch, Derek Lowenstein, William Mackay, Thomas Roser, Alessandro Ruggiero, Triveni Srinivasan-Rao, Dejan Trbojevic, Gang Wang (SUNY Stony Brook), Jie Wei.

Topics discussed: Optical Stochastic Cooling Workshop and RHIC E-Cooling Collaboration/Review Meeting

**Optical Stochastic Cooling Workshop:** Thomas opened this meeting with his impressions of the Optical Stochastic Cooling (OSC) Workshop that was held yesterday at MIT's Bates Linear Accelerator Center. Thomas attended this meeting along with Wolfram Fischer, Michael Blaskiewicz, and Mike Brennan. The workshop featured a proposal to test optical stochastic cooling of electrons in a 200 MeV electron ring. Cooling time is expected to be less than one second, as compared to 10 seconds by synchrotron radiation, thus allowing a clear observation of the OSC process.

A discussion ensued regarding benefits to cooling ions in RHIC. Ilan pointed out that Vitaly Yakimenko had briefly looked into optical stochastic cooling in RHIC and concluded that it would help cool the tails. Thomas suggested encouraging Vitaly to do more calculations. Ilan said that past proposals on optical stochastic cooling were not funded and he is looking forward to see one going forward. Alessandro pointed out that there were suggestions to use optical stochastic cooling to cool muons, but it required unfeasible optical power levels, since it was single pass cooling and the beam size was large.

**RHIC E-Cooling Collaboration/Review Meeting:** one of the recommendations resulting from the last Machine Advisory Committee Meeting was to expose the approach we are taking on non-magnetized cooling to a group of experts in a dedicated meeting. Ilan plans to set up a 3 day collaboration workshop in May 24-26, 2006 to serve this purpose. The meeting and the feasibility studies presented should help in preparation for CD0 in the summer.

Ilan envisions a meeting by invitation only of about 30 participants. The meeting should be focused on two main topics: non-magnetized cooling and the generation of low emittance, high-current (high brightness) CW electron beams. The latter should include topics on

sources, superconducting electron gun, beam dynamics, emittance compensation etc. Paramount to the workshop is the narrow focus of the meeting that should be limited to issues that have direct bearing on RHIC E-Cooling.

A discussion ensued regarding various aspects of the workshop (who to invite, length of workshop, etc.).